Figure 1

```
atgttgacgttgcagacttggggtagtgcaagccttgtttattttcctcaccactgaatct
 M  L  T  L  Q  T  W  V  V  Q  A  L  F  I  F  L  T  T  E  S
acaggtgaacttctagatccatgtggttatatcagtcctgaatctccagttgtacaactt
 T  G  E  L  L  D  P  C  G  Y  I  S  P  E  S  P  V  V  Q  L
cattctaatttcactgcagttgtgtgctaaaggaaaaatgtatggattattttcatgta
 H  S  N  F  T  A  V  C  V  L  K  E  K  C  M  D  Y  F  H  V
aatgctaattacattgtctggaaaacaaaccattttactattcctaaggagcaatatact
 N  A  N  Y  I  V  W  K  T  N  H  F  T  I  P  K  E  Q  Y  T
atcataaacagaacagcatccagtgtcacctttacagatatagcttcattaaatattcag
 I  I  N  R  T  A  S  S  V  T  F  T  D  I  A  S  L  N  I  Q
ctcacttgcaacattcttacattcggacagcttgaacagaatgtttatggaatcacaata
 L  T  C  N  I  L  T  F  G  Q  L  E  Q  N  V  Y  G  I  T  I
atttcaggcttgcctccagaaaaacctaaaaatttgagttgcattgtgaacgaggggaag
 I  S  G  L  P  P  E  K  P  K  N  L  S  C  I  V  N  E  G  K
aaaatgaggtgtgagtgggatggtggaagggaaacacacttggagacaaaacttcactta
 K  M  R  C  E  W  D  G  G  R  E  T  H  L  E  T  N  F  T  L
aaatctgaatgggcaacacacaagtttgctgattgcaaagcaaaacgtgacacccccacc
 K  S  E  W  A  T  H  K  F  A  D  C  K  A  K  R  D  T  P  T
tcatgcactgttgattattctactgtgtattttgtcaacattgaagtctggggtagaagca
 S  C  T  V  D  Y  S  T  V  Y  F  V  N  I  E  V  W  V  E  A
gagaatgcccttgggaaggttacatcagatcatatcaattttgatcctgtatataaagtg
 E  N  A  L  G  K  V  T  S  D  H  I  N  F  D  P  V  Y  K  V
aagcccaatccgccacataatttatcagtgatcaactcagaggaactgtctagtatctta
 K  P  N  P  P  H  N  L  S  V  I  N  S  E  E  L  S  S  I  L
aaattgacatggaccaacccaagtattaagagtgttataatactaaaatataacattcaa
 K  L  T  W  T  N  P  S  I  K  S  V  I  I  L  K  Y  N  I  Q
tataggaccaaagatgcctcaacttggagccagattcctcctgaagacacagcatccacc
 Y  R  T  K  D  A  S  T  W  S  Q  I  P  P  E  D  T  A  S  T
cgatcttcattcactgtccaagaccttaaaccttttacagaatatgtgtttaggattcgc
 R  S  S  F  T  V  Q  D  L  K  P  F  T  E  Y  V  F  R  I  R
tgtatgaaggaagatggtaagggatactggagtgactggagtgaagaagcaagtgggatc
 C  M  K  E  D  G  K  G  Y  W  S  D  W  S  E  E  A  S  G  I
acctatgaagatagacca
 T  Y  E  D  R  P
```

Figure 2

```
atgtgctggttcaagttgtggtctctcttgctggtcggttcactgctggtatctggaacg
 M  C  W  F  K  L  W  S  L  L  L  V  G  S  L  L  V  S  G  T
cggggcaagttgccggacgccccccgagtttgaaaaggatcttctcattcagagactcaat
 R  G  K  L  P  D  A  P  E  F  E  K  D  L  L  I  Q  R  L  N
tggatgctatgggtgatcgatgaatgcttccgcgacctctgttaccgtaccggcatctgc
 W  M  L  W  V  I  D  E  C  F  R  D  L  C  Y  R  T  G  I  C
aagggtattctagagcccgctgctattttttcatctgaaactaccagccatcaacgatact
 K  G  I  L  E  P  A  A  I  F  H  L  K  L  P  A  I  N  D  T
gatcactgcgggttaataggatttaatgagactagctgccttaaaaagctcgccgatggc
 D  H  C  G  L  I  G  F  N  E  T  S  C  L  K  K  L  A  D  G
ttttttgaattcgaggtgttgtttaagtttttaacgacggagtttggaaaatcagtgata
 F  F  E  F  E  V  L  F  K  F  L  T  T  E  F  G  K  S  V  I
aacgtggacgtcatggagcttctgacgaagaccttaggatgggacatacaggaagagctc
 N  V  D  V  M  E  L  L  T  K  T  L  G  W  D  I  Q  E  E  L
aataagctgactaagacgcactacagtccacccaaatttgaccgcggtctattagggagg
 N  K  L  T  K  T  H  Y  S  P  P  K  F  D  R  G  L  L  G  R
cttcagggacttaagtattgggtgagacactttgcttcgttttatgttctgagtgcaatg
 L  Q  G  L  K  Y  W  V  R  H  F  A  S  F  Y  V  L  S  A  M
gaaaagtttgcaggtcaagcggtgcgtgttttggactctatcccagacgtgactcctgac
 E  K  F  A  G  Q  A  V  R  V  L  D  S  I  P  D  V  T  P  D
gtccacgataagtaa
 V  H  D  K  -
```
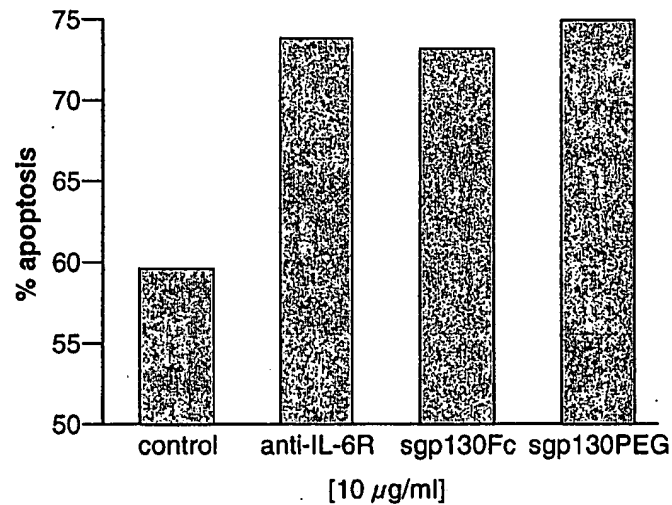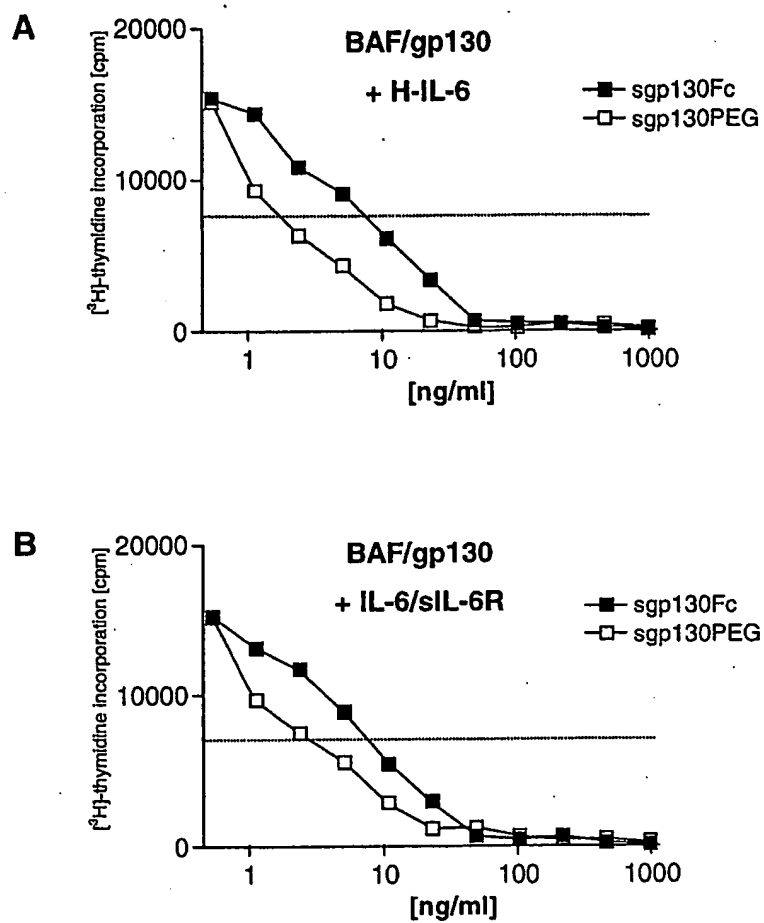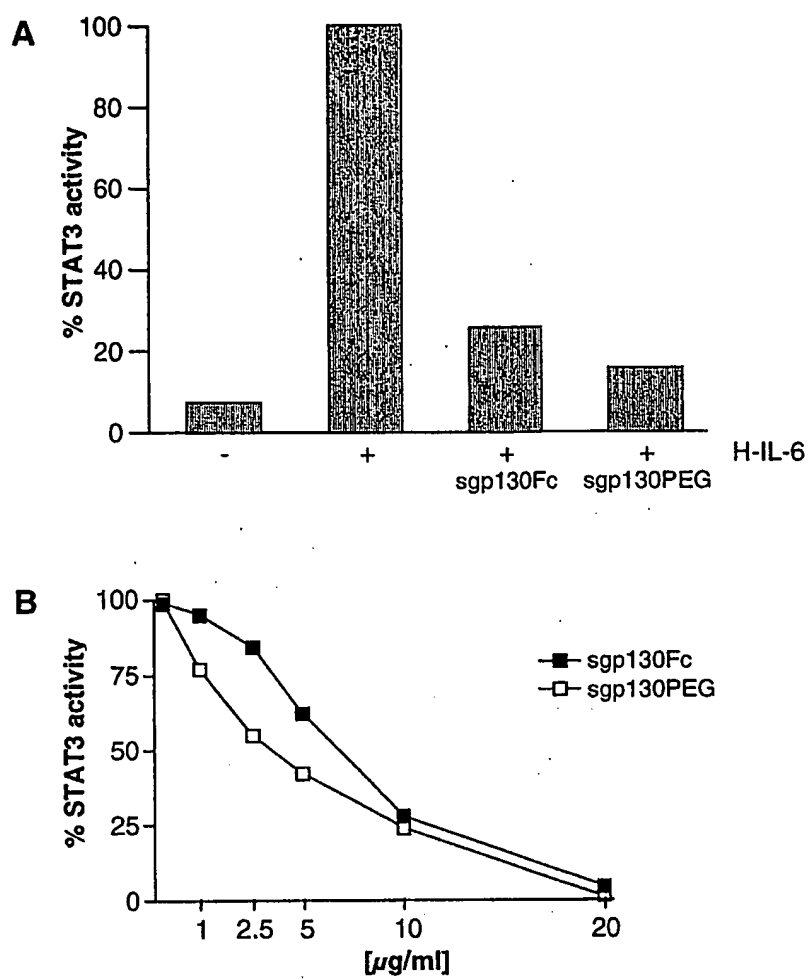
Figure 3

Figure 4

Figure 5

Figure 6

FIG. 7

```
atggaacttctagatccatgtggttatatcagtcctgaatctccagttgtacaactt
 M   E   L   L   D   P   C   G   Y   I   S   P   E   S   P   V   V   Q   L
cattctaatttcactgcagtttgtgtgctaaaggaaaaatgtatggattattttcatgta
 H   S   N   F   T   A   V   C   V   L   K   E   K   C   M   D   Y   F   H   V
aatgctaattacattgtctggaaaacaaaccattttactattcctaaggagcaatatact
 N   A   N   Y   I   V   W   K   T   N   H   F   T   I   P   K   E   Q   Y   T
atcataaacagaacagcatccagtgtcacctttacagatatagcttcattaaatattcag
 I   I   N   R   T   A   S   S   V   T   F   T   D   I   A   S   L   N   I   Q
ctcacttgcaacattcttacattcggacagcttgaacagaatgtttatggaatcacaata
 L   T   C   N   I   L   T   F   G   Q   L   E   Q   N   V   Y   G   I   T   I
atttcaggcttgcctccagaaaaacctaaaaatttgagttgcattgtgaacgagggaag
 I   S   G   L   P   P   E   K   P   K   N   L   S   C   I   V   N   E   G   K
aaaatgaggtgtgagtgggatggtggaagggaaacacacttggagacaaacttcacttta
 K   M   R   C   E   W   D   G   G   R   E   T   H   L   E   T   N   F   T   L
aaatctgaatgggcaacacacaagtttgctgattgcaaagcaaaacgtgacacccccacc
 K   S   E   W   A   T   H   K   F   A   D   C   K   A   K   R   D   T   P   T
tcatgcactgttgattattctactgtgtattttgtcaacattgaagtctgggtagaagca
 S   C   T   V   D   Y   S   T   V   Y   F   V   N   I   E   V   W   V   E   A
gagaatgcccttgggaaggttacatcagatcatatcaattttgatcctgtatataaagtg
 E   N   A   L   G   K   V   T   S   D   H   I   N   F   D   P   V   Y   K   V
aagcccaatccgccacataatttatcagtgatcaactcagaggaactgtctagtatctta
 K   P   N   P   P   H   N   L   S   V   I   N   S   E   E   L   S   S   I   L
aaattgacatggaccaacccaagtattaagagtgttataatactaaaatataacattcaa
 K   L   T   W   T   N   P   S   I   K   S   V   I   I   L   K   Y   N   I   Q
tataggaccaaagatgcctcaacttggagccagattcctcctgaagacacagcatccacc
 Y   R   T   K   D   A   S   T   W   S   Q   I   P   P   E   D   T   A   S   T
cgatcttcattcactgtccaagaccttaaacctttacagaatatgtgtttaggattcgc
 R   S   S   F   T   V   Q   D   L   K   P   F   T   E   Y   V   F   R   I   R
tgtatgaaggaagatggtaagggatactggagtgactggagtgaagaagcaagtgggatc
 C   M   K   E   D   G   K   G   Y   W   S   D   W   S   E   E   A   S   G   I
acctatgaagatagacca
 T   Y   E   D   R   P
```
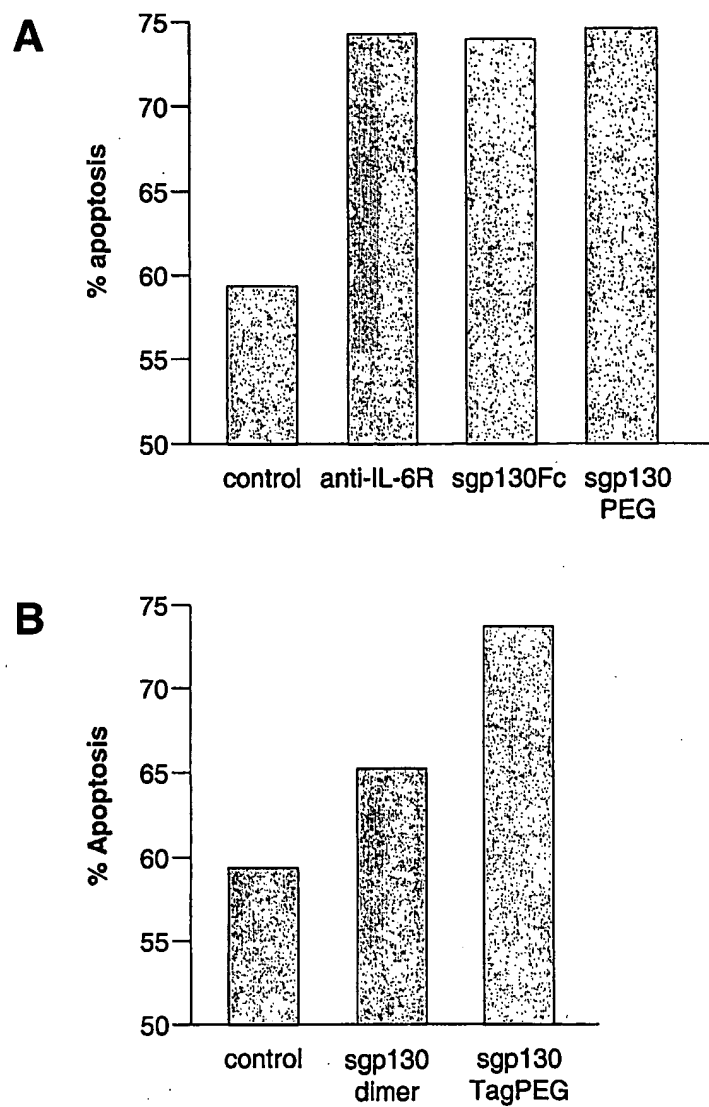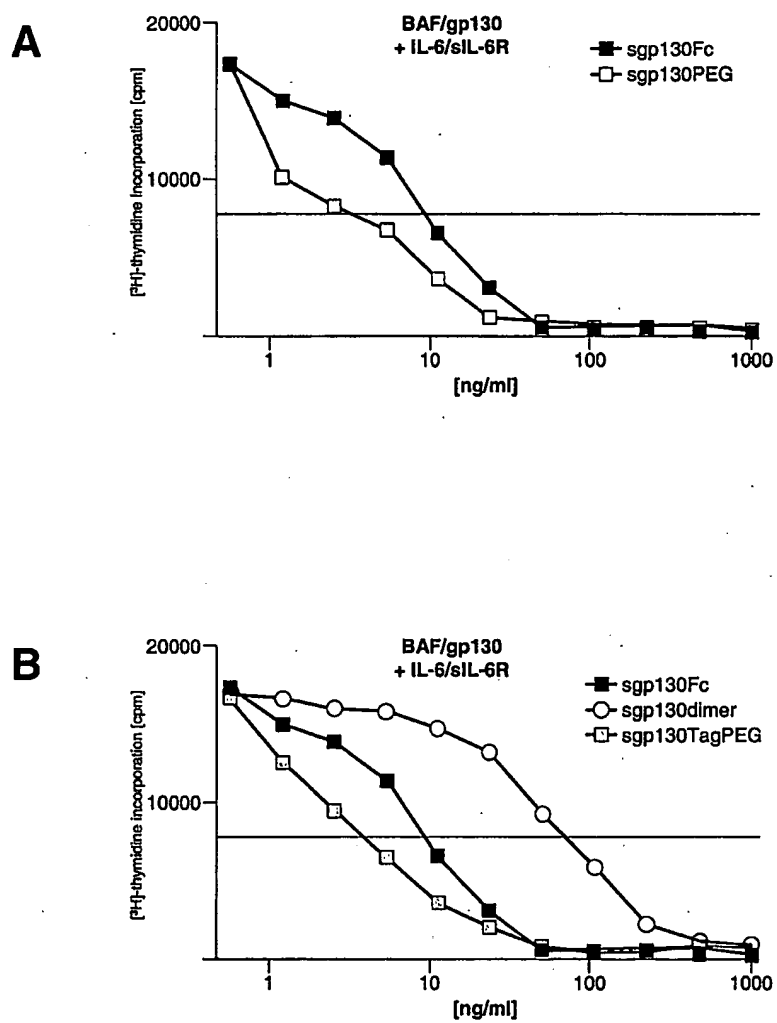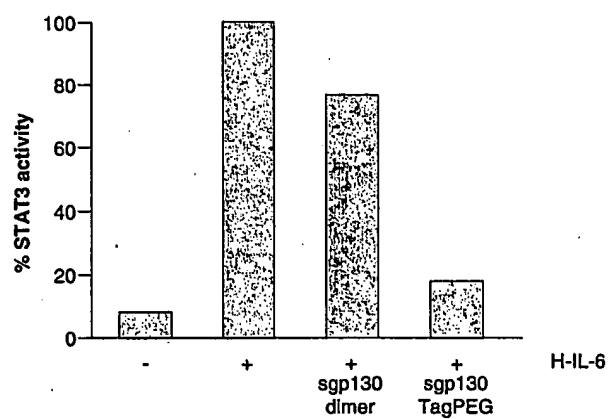
A

B

Fig. 8

Fig. 9

Fig. 10

A

% STAT3 activity

100
80
60
40
20
0

-     +   +   +
          sgp130   sgp130
          dimer   TagPEG
                              H-IL-6

B

% STAT3 activity

100
75
50
25
50

1 2.5 5   10   20
        [ng/ml]

■ sgp130Fc
○ sgp130dimer
□ sgp130TagPEG